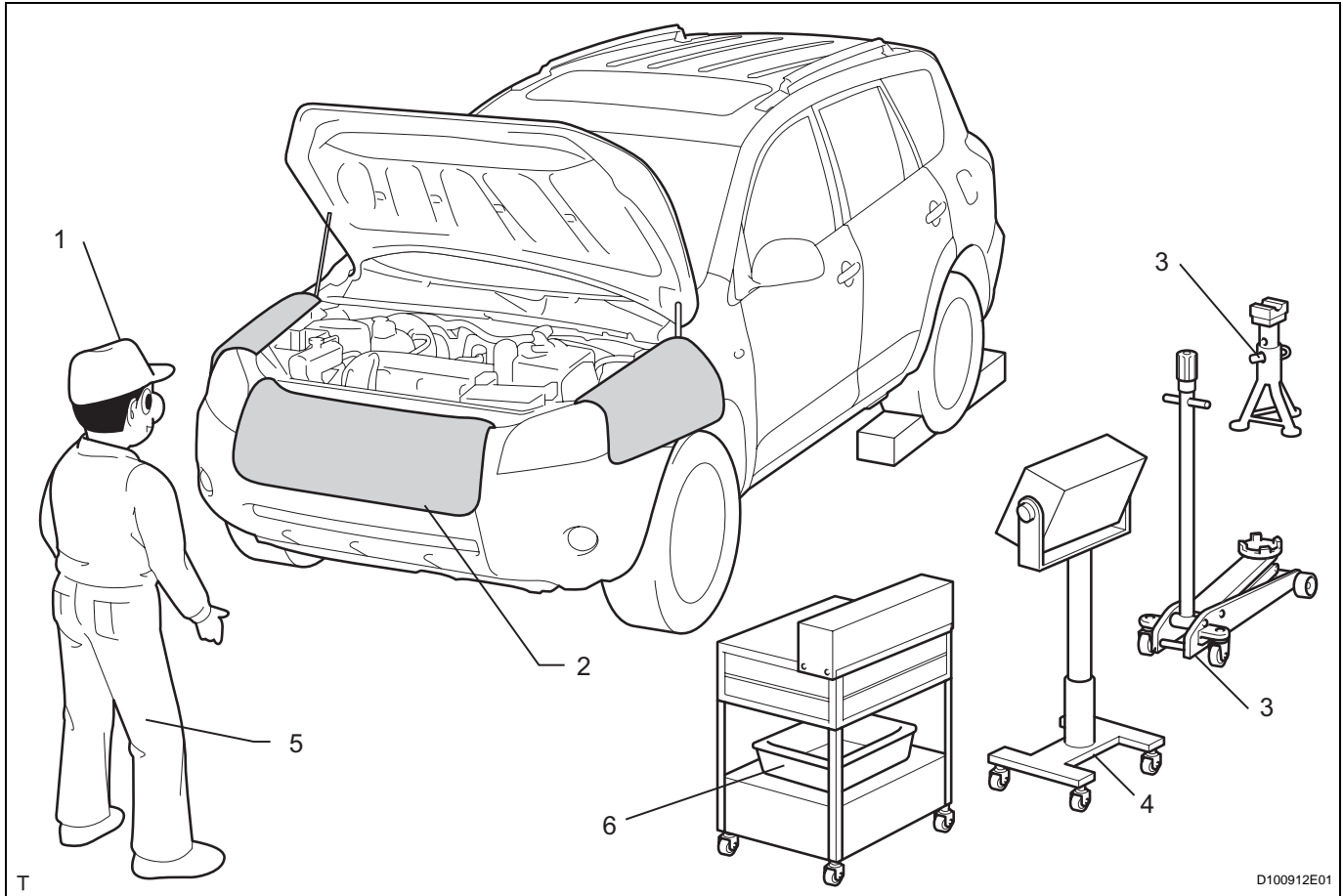


REPAIR INSTRUCTION

PRECAUTION

1. BASIC REPAIR HINT

(a) HINTS ON OPERATIONS



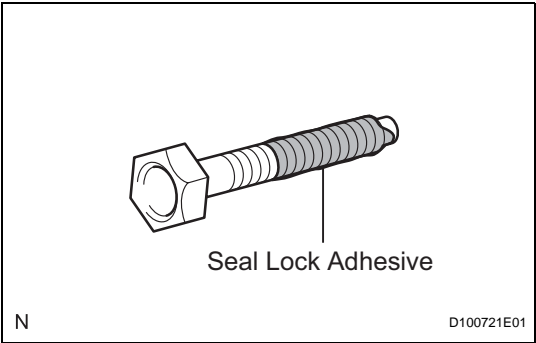
T

D100912E01

1	Attire	<ul style="list-style-type: none"> Always wear a clean uniform. A hat and safety shoes must be worn.
2	Vehicle protection	Prepare a grille cover, fender cover, seat cover and floor mat before starting the operation.
3	Safe operation	<ul style="list-style-type: none"> When working with 2 or more persons, be sure to check safety for one another. When working with the engine running, make sure to provide ventilation for exhaust fumes in the workshop. If working on high temperature, high pressure, rotating, moving, or vibrating parts, wear appropriate safety equipment and take extra care not to injure yourself or others. When jacking up the vehicle, be sure to support the specified location with a safety stand. When lifting up the vehicle, use appropriate safety equipment.
4	Preparation of tools and measuring gauge	Before starting the operation, prepare a tool stand, SST, gauge, oil and parts for replacement.
5	Removal and installation, disassembly and assembly operations	<ul style="list-style-type: none"> Diagnose with a thorough understanding of proper procedures and of the reported problem. Before removing parts, check the general condition of the assembly and for deformation and damage. When the assembly is complicated, take notes. For example, note the total number of electrical connections, bolts, or hoses removed. Add matchmarks to ensure reassembly of components to their original positions. Temporarily mark hoses and their fittings if needed. Clean and wash the removed parts if necessary and assemble them after a thorough check.

6	Removed parts	<ul style="list-style-type: none">• Place removed parts in a separate box to avoid mixing them up with new parts or contaminating new parts.• For non-reusable parts such as gaskets, O-rings, and self-locking nuts, replace them with new ones as instructed in this manual.• Retain the removed parts for customer inspection, if requested.
---	---------------	---

IN



(b) JACKING UP AND SUPPORTING VEHICLE

- (1) Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations.

(c) PRECOATED PARTS

- (1) Precoated parts are bolts and nuts that are coated with a seal lock adhesive at the factory.
- (2) If a precoated part is retightened, loosened or moved in any way, it must be recoated with the specified adhesive.
- (3) When reusing a precoated part, clean off the old adhesive and dry the part with compressed air. Then apply new seal lock adhesive appropriate to that part.
- (4) Some seal lock agents harden slowly. You may have to wait for the seal lock adhesive to harden.

(d) GASKETS

- (1) When necessary, use a sealer on gaskets to prevent leaks.

(e) BOLTS, NUTS AND SCREWS

- (1) Carefully follow all the specifications for tightening torques. Always use a torque wrench.

(f) FUSES

- (1) When inspecting a fuse, check that the wire of the fuse is not broken.
- (2) When replacing fuses, be sure that the new fuse has the correct amperage rating. Do not exceed the rating or use one with a lower rating.

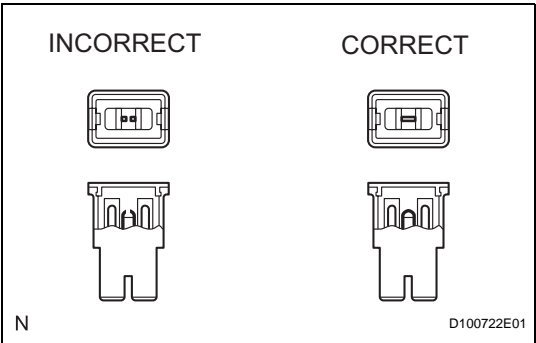
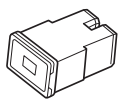

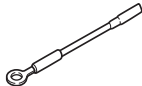

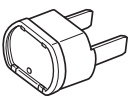



Illustration	Symbol	Part Name	Abbreviation
<p>N</p>	<p>N</p>	FUSE	FUSE
<p>N</p>	<p>N</p>	MEDIUM CURRENT FUSE	M-FUSE

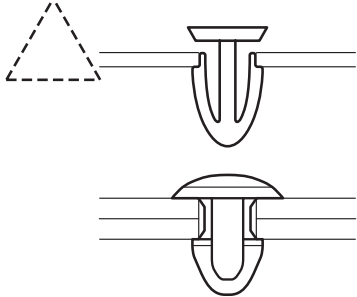
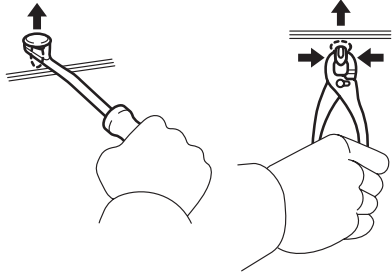
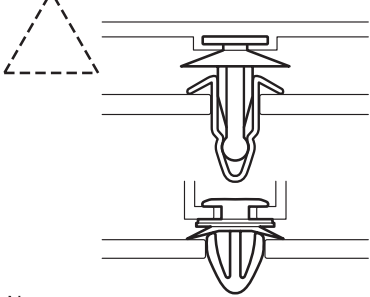
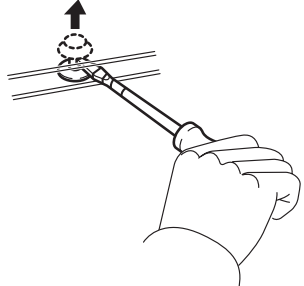
Illustration	Symbol	Part Name	Abbreviation
 N	 N	HIGH CURRENT FUSE	H-FUSE
 N	 N	FUSIBLE LINK	FL
 N	 N	CIRCUIT BREAKER	CB

(g) CLIPS

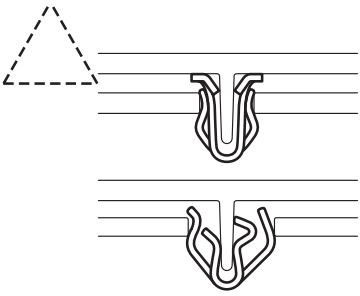
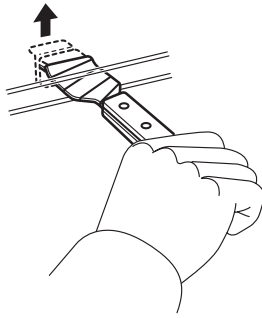
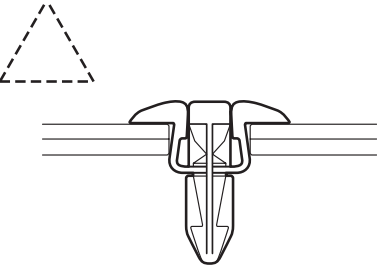
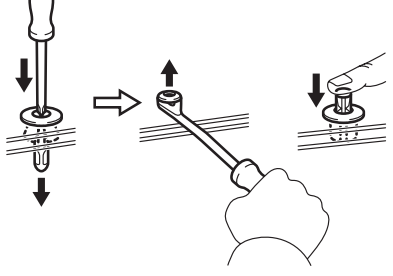
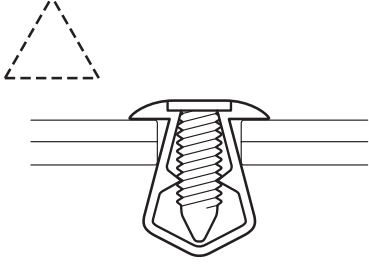
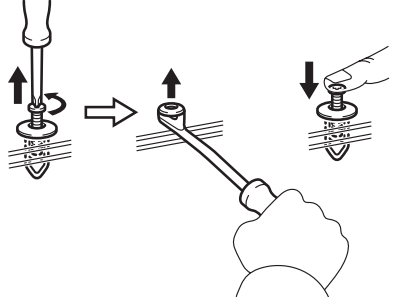
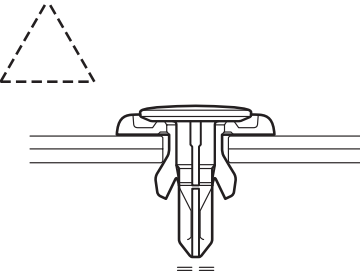
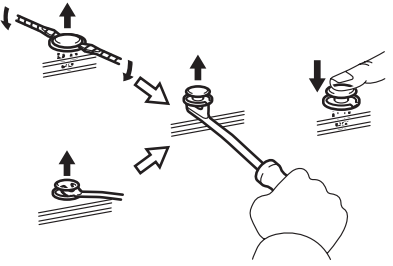
(1) The removal and installation methods of typical clips used for vehicle body parts are shown in the table below.

HINT:

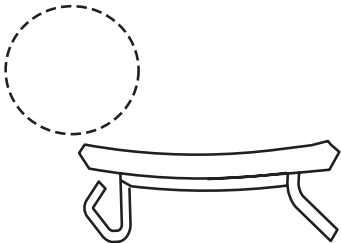
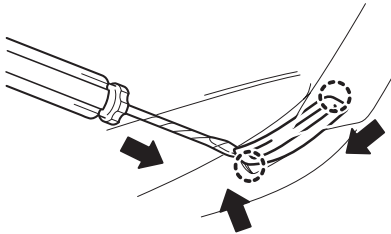
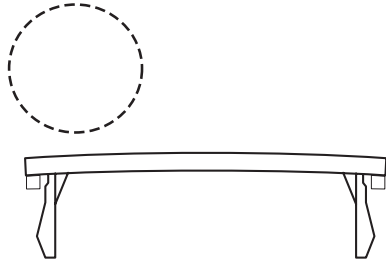
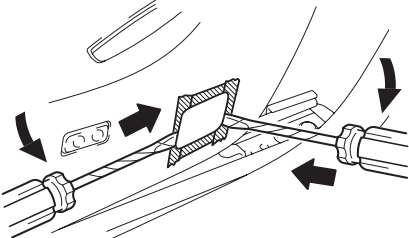
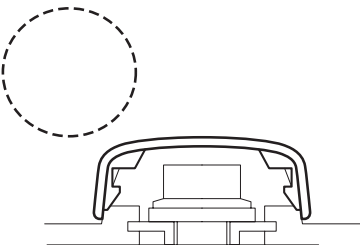
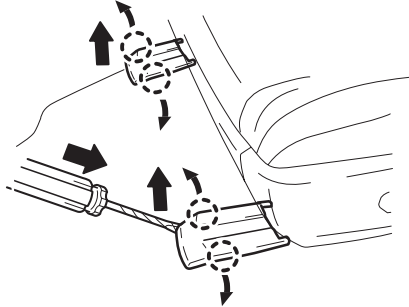
If clips are damaged during a procedure, always replace the clips with new clips.

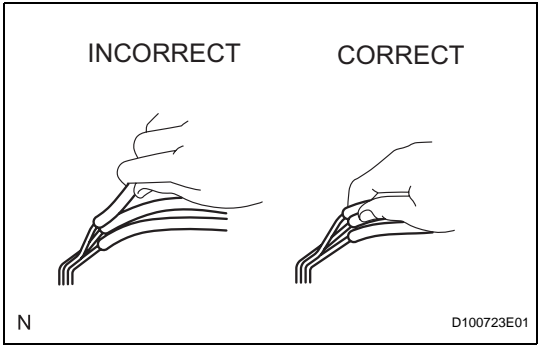
Shape (Example)	Illustration	Procedures
 N	 N	1. Remove clips with a clip remover or pliers.
 N	 N	1. Remove clips with a clip remover or screwdriver.

IN

Shape (Example)	Illustration	Procedures
 N	 N	1. Remove clips with a wide scraper to prevent panel damage.
 N	 N	1. Remove clips by pushing the center pin through and prying out the shell.
 N	 N	1. Remove clips by unscrewing the center pin and prying out the shell.
 N	 N	1. Remove the clip by prying out the pin and then prying out the shell.

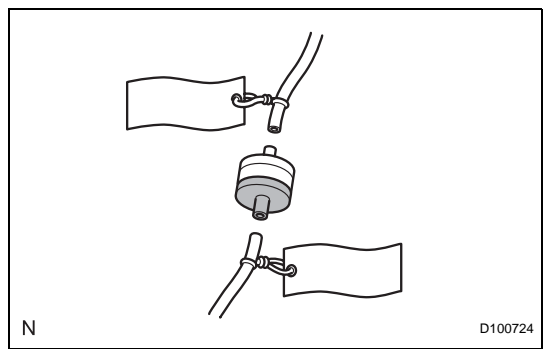
- (h) CLAWS
- (1) The removal and installation methods of typical claws used for vehicle body parts are shown in the table below.
- HINT:
- If claws of caps or covers are damaged during a procedure, always replace the caps or covers with new ones.

Shape (Example)	Illustration	Procedures
		1. Using a screwdriver, detach the claws and remove the caps or cover.
		1. Using a screwdriver, detach the claws and remove the caps or cover.
		1. Using a screwdriver, detach the claws and remove the caps or cover.

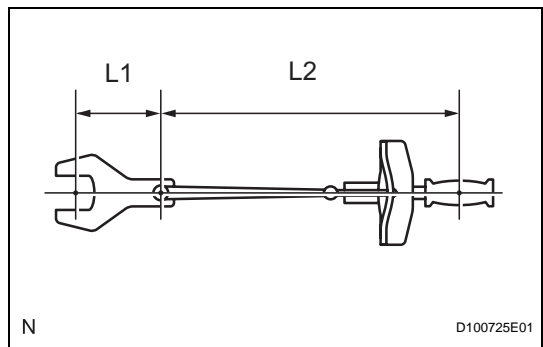


- (i) REMOVAL AND INSTALLATION OF VACUUM HOSES
- (1) To disconnect a vacuum hose, pull and twist from the end of the hose. Do not pull from the middle of the hose as this may cause damage.

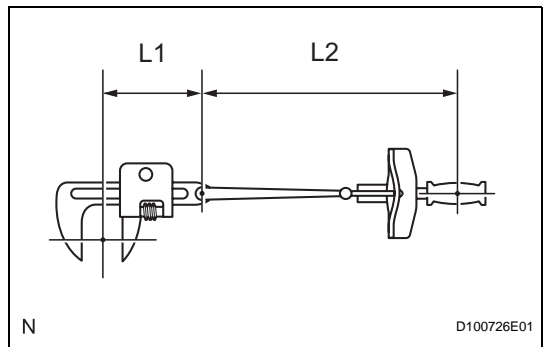
IN



- (2) When disconnecting vacuum hoses, use tags to identify where they should be reconnected.
- (3) After completing any hose related repairs, double-check that the vacuum hoses are properly connected. The label under the hood shows the proper layout.
- (4) When using a vacuum gauge, never force the hose onto a connector that is too large. If a hose has been stretched, it may leak air. Use a step-down adapter if necessary.



(j) TORQUE WHEN USING TORQUE WRENCH WITH EXTENSION TOOL



- (1) Use the formula below to calculate special torque values for situations where SST or an extension tool is combined with a torque wrench.

Formula:
$$T' = L2 / (L1 + L2) * T$$

T'	Reading of torque wrench {N*m (kgf*cm, ft.*lbf)}
T	Torque {N*m (kgf*cm, ft.*lbf)}
L1	Length of SST or extension tool {cm (in.)}
L2	Length of torque wrench {cm (in.)}

NOTICE:
If an extension tool or SST is combined with a torque wrench and the wrench is used to tighten to a torque specification in this manual, the actual torque will be excessive and parts will be damaged.

2. FOR VEHICLES WITH SUPPLEMENTAL RESTRAINT SYSTEM

The RAV4 is equipped with a Supplemental Restraint System (SRS). The SRS of this vehicle consists of the following:

- 1. Steering pad
- 2. Front passenger airbag assembly
- 3. Front seat side airbag assembly
- 4. Front seat outer belt assembly with pretensioner
- 5. Curtain shield
- 6. Center airbag sensor
- 7. Front airbag sensor
- 8. Side airbag sensor
- 9. Rear airbag sensor
- 10. Occupant Classification ECU

CAUTION:

- Failure to carry out service procedures in the correct sequence could cause SRS parts to unexpectedly deploy and possibly lead to serious injuries. Furthermore, if a mistake is made when servicing SRS parts, they may fail to operate when required. Before performing servicing (including installation/removal, inspection and replacement of parts), be sure to read the following precautions.
- Before starting work, wait at least 90 seconds after the ignition switch is turned OFF and after the cable of the negative (-) battery terminal is disconnected. (SRS parts are equipped with a backup power source. If work is started within 90 seconds of turning the ignition switch OFF and disconnecting the cable from the negative (-) battery terminal, SRS parts may deploy.)
- Do not expose SRS parts directly to hot air or flames.

NOTICE:

- Malfunction symptoms of SRS parts are difficult to confirm. DTCs are the most important source of information when troubleshooting. During troubleshooting, always confirm DTCs before disconnecting the cable from the negative (-) battery terminal.
- For minor collisions where SRS parts do not deploy, always inspect the SRS parts.
- Before performing repairs, remove airbag sensors as necessary if any kind of impact is likely to occur to an airbag sensor during repairs.
- Never use SRS parts from another vehicle. When replacing SRS parts, replace them with new ones.
- Never disassemble or attempt to repair SRS parts.
- If an SRS part has been dropped, or if there are any cracks, dents or other defects in the case, bracket or connector, replace the SRS part with a new one.
- Use an ohmmeter/voltmeter with high impedance (10 k Ω /V minimum) for troubleshooting the electrical circuits.
- Information labels are attached to the periphery of SRS parts. Follow the cautions and instructions on the labels.
- After work on SRS parts is completed, perform the SRS warning light check.

- **When the cable is disconnected from the negative (-) battery terminal, the memory settings of each system will be cleared. Because of this, be sure to write down the settings of each system before starting work. When work is finished, reset the settings of each system as before. Never use a backup power supply from outside the vehicle to avoid erasing the memory in a system.**

(a) SPIRAL CABLE

- (1) The steering wheel must be fitted correctly to the steering column with the spiral cable at the neutral position, as cable disconnection and other problems may occur. Refer to the information about correct installation of the steering wheel.

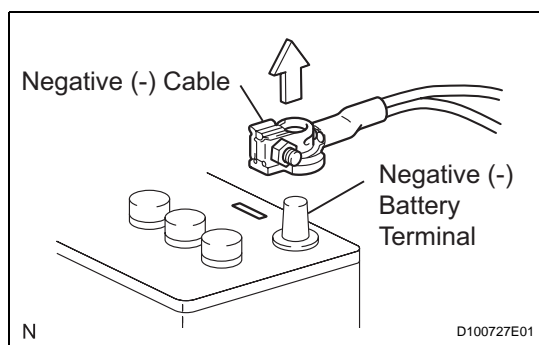
(b) AIRBAG ASSEMBLY

- (1) Airbag assembly with pad:
Always place a removed or new airbag assembly with the pad surface facing upward. Placing the airbag assembly with the airbag inflation direction facing downward could cause a serious accident if the airbag inflates. Also, do not place anything on top of the airbag assembly.
- (2) Never measure the resistance of the airbag squib. This may cause the airbag to inflate, which could cause a serious injury.
- (3) Grease or detergents of any kind should not be applied to the airbag assembly.
- (4) Store the airbag assembly in an area where the ambient temperature is below 93°C (200°F), the humidity is not high and there is no electrical noise.
- (5) When using electric welding anywhere on the vehicle, disconnect the airbag ECU connectors. These connectors contain shorting springs. This feature reduces the possibility of the airbag deploying due to currents entering the squib wiring.
- (6) When disposing of the vehicle or the airbag assembly by itself, the airbag should be deployed using SST before disposal. Activate the airbag in a safe place away from electrical noise.

(c) SEAT OUTER BELT ASSEMBLY WITH PRETENSIONER

- (1) Never measure the resistance of the seat outer belt. This may cause the pretensioner of the seat outer belt to activate, which could cause a serious injury.
- (2) Never install the seat outer belt on another vehicle.

- (3) Store the seat outer belt in an area where the ambient temperature is below 80°C (176°F), the humidity is not high and there is no electrical noise.
 - (4) When using electric welding anywhere on the vehicle, disconnect the airbag ECU connectors (2 pins). These connectors contain shorting springs. This feature reduces the possibility of the pretensioner deploying due to currents entering the squib wiring.
 - (5) When disposing of a vehicle or the seat outer belt by itself, the pretensioner should be activated before disposal. Activate the pretensioner in a safe place away from electrical noise.
 - (6) As the seat outer belt is hot after the pretensioner is activated, allow some time for it to cool down sufficiently before disposal. Never apply water to try to cool down the seat outer belt.
 - (7) Grease, detergents, oil or water should not be applied to the seat outer belt.
- (d) AIRBAG SENSOR ASSEMBLY
- (1) Never reuse an airbag sensor assembly that has been involved in a collision where the SRS has deployed.
 - (2) The connectors to the airbag sensor assembly should be connected or disconnected with the sensor placed on the floor. If the connectors are connected or disconnected while the airbag sensor assembly is not placed on the floor, the SRS may activate.
 - (3) Work must be started at least 90 seconds after the ignition switch is turned OFF and the cable is disconnected from the negative (-) battery terminal, even if only loosening the set bolts of the airbag sensor assembly.
- (e) WIRE HARNESS AND CONNECTOR
- (1) The SRS wire harness is integrated with the instrument panel wire harness assembly. All the connectors in the system are yellow. If the SRS wire harness becomes disconnected or the connector becomes broken, repair or replace it.



3. ELECTRONIC CONTROL

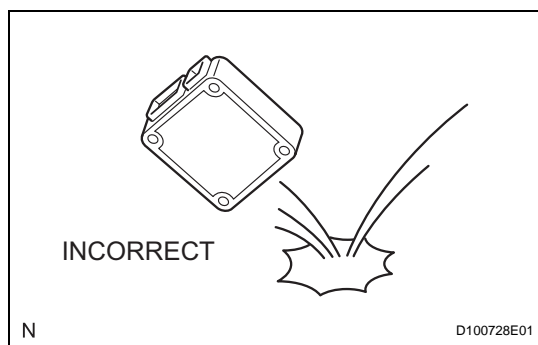
- (a) REMOVAL AND INSTALLATION OF BATTERY TERMINAL

NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

- (1) Before performing electronic work, disconnect the cable from the negative (-) battery terminal to prevent component and wire damage caused by accidental short circuits.

IN



- (2) When disconnecting the cable, turn the ignition switch OFF and headlight dimmer switch OFF and loosen the cable nut completely. Perform these operations without twisting or prying the cable. Then disconnect the cable.
- (3) Clock settings, radio settings, audio system memory, DTCs and other data are erased when the cable is disconnected from the negative (-) battery terminal. Write down any necessary data before disconnecting the cable.

(b) **HANDLING OF ELECTRONIC PARTS**

- (1) Do not open the cover or case of the ECU unless absolutely necessary. If the IC terminals are touched, the IC may be rendered inoperative by static electricity.
- (2) Do not pull the wires when disconnecting electronic connectors. Pull the connector.
- (3) Be careful not to drop electronic components, such as sensors or relays. If they are dropped on a hard surface, they should be replaced.
- (4) When cleaning the engine with steam, protect the electronic components, air filter and emission-related components from water.
- (5) Never use an impact wrench to remove or install temperature switches or temperature sensors.
- (6) When measuring the resistance of a wire connector, insert the tester probe carefully to prevent terminals from bending.

4. REMOVAL AND INSTALLATION OF FUEL CONTROL PARTS

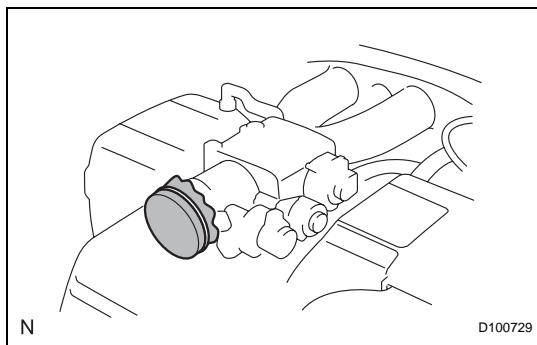
(a) **PLACE FOR REMOVING AND INSTALLING FUEL SYSTEM PARTS**

- (1) Work in a location with good air ventilation that does not have welders, grinders, drills, electric motors, stoves, or any other ignition sources.
- (2) Never work in a pit or near a pit as vaporized fuel will collect in those places.

(b) **REMOVING AND INSTALLING FUEL SYSTEM PARTS**

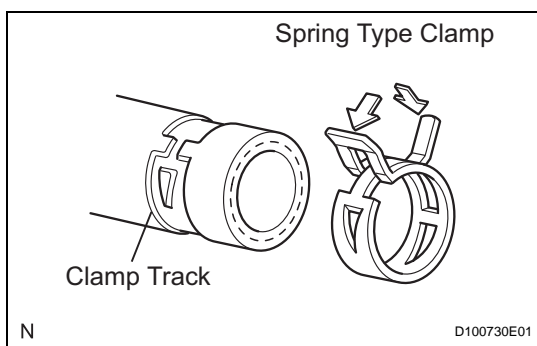
- (1) Prepare a fire extinguisher before starting the operation.
- (2) To prevent static electricity, install a ground wire to the fuel changer, vehicle and fuel tank, and do not spray the surrounding area with water. Be careful when performing work in this area, as the work surface will become slippery. Do not clean up gasoline spills with water, as this may cause the gasoline to spread, and possibly create a fire hazard.
- (3) Avoid using electric motors, working lights and other electric equipment that can cause sparks or high temperatures.
- (4) Avoid using iron hammers as they may create sparks.

- (5) Dispose of fuel-contaminated cloth separately using a fire resistant container.



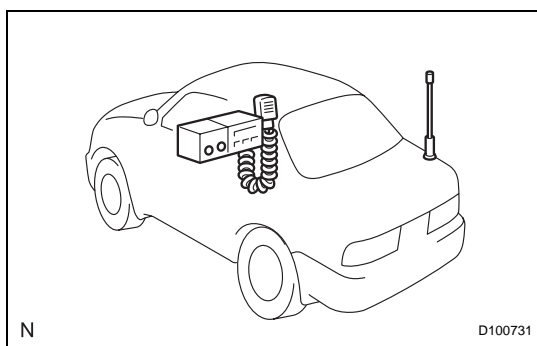
5. REMOVAL AND INSTALLATION OF ENGINE INTAKE PARTS

- If any metal particles enter inlet system parts, they may damage the engine.
- When removing and installing inlet system parts, cover the openings of the removed parts and engine openings. Use gummed tape or other suitable materials.
- When installing inlet system parts, check that no metal particles have entered the engine or the installed parts.



6. HANDLING OF HOSE CLAMPS

- Before removing the hose, check the clamp position so that it can be reinstalled in the same position.
- Replace any deformed or dented clamps with new ones.
- When reusing a hose, attach the clamp on the clamp track portion of the hose.
- For a spring type clamp, you may want to spread the tabs slightly after installation by pushing in the direction of the arrows as shown in the illustration.



7. FOR VEHICLES EQUIPPED WITH MOBILE COMMUNICATION SYSTEMS

- Install the antenna as far away from the ECU and sensors of the vehicle electronic systems as possible.
- Install an antenna feeder at least 20 cm (7.87 in.) away from the ECU and sensors of the vehicle electronic systems. For details about ECU and sensor locations, refer to the section of the applicable components.
- Keep the antenna and feeder separate from other wiring as much as possible. This will prevent signals of the communication equipment from affecting vehicle equipment and vice versa.
- Check that the antenna and feeder are correctly adjusted.
- Do not install a high-powered mobile communication system.

8. FOR VEHICLES EQUIPPED WITH VEHICLE STABILITY (VSC) SYSTEM

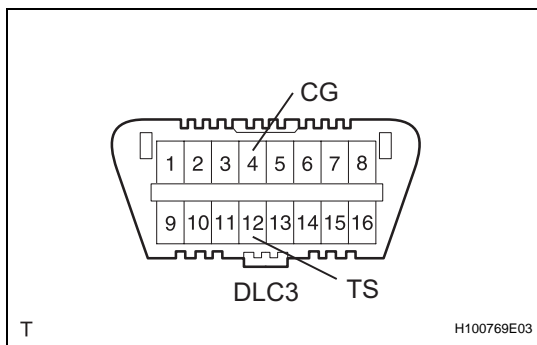
(a) NOTICES WHEN USING DRUM TESTER

- Before beginning testing, disable the VSC. To disable the VSC, turn the ignition switch OFF and connect SST to terminals 12 (TS) and 4 (CG) of the DLC3.

SST 09843-18040

NOTICE:

- Confirm that the VSC warning light blinks.



- **VSC system will be reset when the engine is started.**
- **For safety, secure the vehicle with restraint chains while using a wheel dynamometer.**

- (b) NOTICES OF RELATED OPERATIONS TO VSC
- (1) Do not carry out unnecessary installation and removal as it might affect the adjustment of VSC related parts.
 - (2) Be sure to follow the instructions for work preparation and final confirmation of proper operation of the VSC system.

9. WHEN SERVICING ACTIVE TORQUE CONTROL 4WD VEHICLES

- (a) The active torque control 4WD RAV4 is equipped with the 4 wheel drive control system. If incorrect preparations or test procedures are used, the test will not only be unsuccessful, but may be dangerous as well.

CAUTION:

- **Never accelerate or decelerate the vehicle suddenly.**
- **Observe the other cautions given for each individual test.**

NOTICE:

- **Sudden shifting, braking, acceleration or deceleration is not allowed.**
- **Do not use the parking brake while the vehicle's wheels are rotating.**
- **Do not perform the measurements continuously for a long period of time.**
- **Make sure to activate the Vehicle Stability Control (VSC) & Traction Control (TRAC) system to an operational condition after the test. Check that the VSC warning indicator light goes off when restarting the engine.**

Therefore, before beginning any such servicing or test, be sure to check the following items:

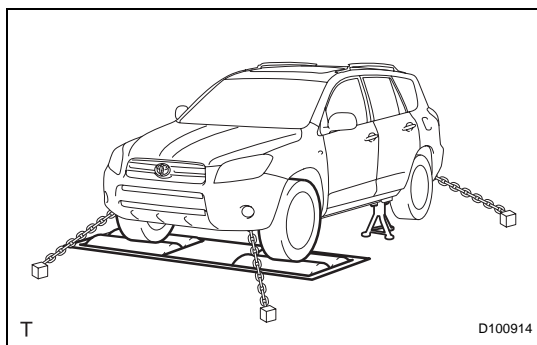
- (1) Whether the tires are touching the ground or jacked up
- (2) Transmission gear position
- (3) Maximum testing vehicle speed
- (4) Maximum testing time

- (b) When using a braking force tester (not free roller type):

When performing measurements using a low-speed type (Vehicle Speed: Below 0.5 km/h or 0.3 mph) brake tester, observe the following instructions.

- (1) Press the 4WD LOCK-MODE SWITCH to OFF to disable the 4WD system.
- (2) If the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, prohibit the system from activating.





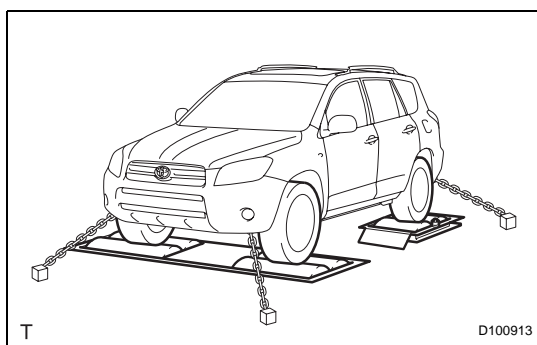
- (3) Position the front wheels to be tested on the tester.
- (4) Jack up the rear wheels.
- (5) Ensure that the vehicle does not move using wires.
- (6) Shift the transmission shift lever to the "N" position.
- (7) Idle the engine, operate the brake booster and perform the test.

CAUTION:

The maximum driving time should be 1 minute.



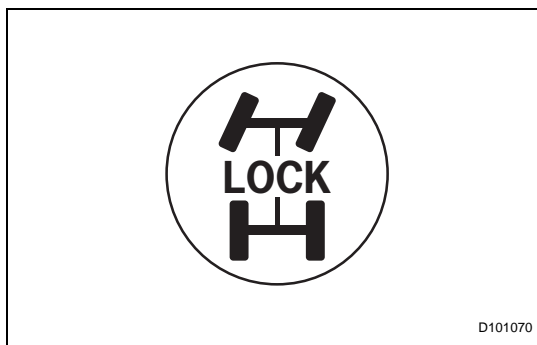
- (c) When using a braking force tester (free roller type):
When performing measurements using a low-speed type (Vehicle Speed: Below 0.5 km/h or 0.3 mph) brake tester, observe the following instructions.
 - (1) Press the 4WD LOCK-MODE SWITCH to turn it OFF and disable the 4WD system.
 - (2) If the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, prohibit the system from activating.



- (3) Position the front wheels on the tester roller.
- (4) Position the rear wheels on the free roller.
- (5) Ensure that the vehicle does not move using wires.
- (6) Shift the transmission shift lever to the "N" position.
- (7) Idle the engine, operate the brake booster and perform the test.

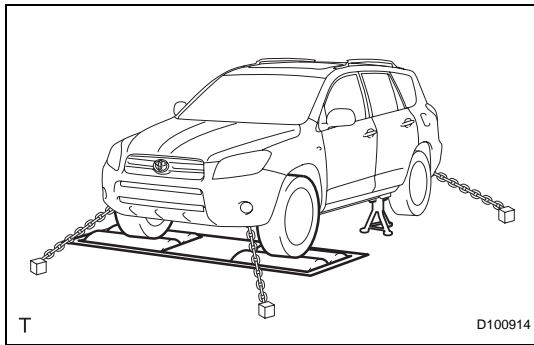
CAUTION:

The maximum driving time should be 1 minute.



- (d) When using a speedometer (not free roller type):
Observe the following instructions and then measure with the rear wheels.
 - (1) Press the 4WD LOCK-MODE SWITCH to turn it OFF and disable the 4WD system.
 - (2) If the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, prohibit the system from activating.

IN



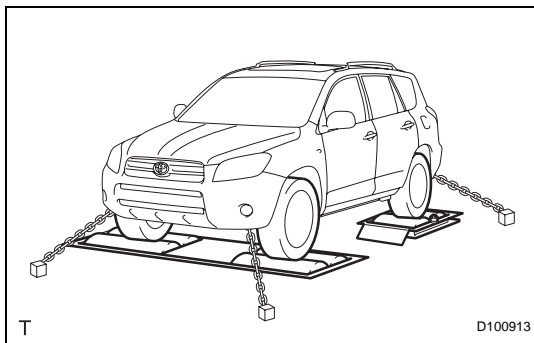
- (3) Position the front wheels on the tester.
- (4) Jack up the rear wheels.
- (5) Ensure that the vehicle does not move using wires.
- (6) Shift the transmission shift lever to the "D" position.

CAUTION:

- The maximum speed should be less than 50 km/h (31 mph).
- If the measurement is required with over 50 km/h (31 mph), remove the propeller shaft.



- (e) When using a speedometer (free roller type):
Observe the following instructions and then measure with the rear wheels.
- (1) Press the 4WD LOCK-MODE SWITCH to turn it OFF and disable the 4WD system.
- (2) If the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, prohibit the system from activating.



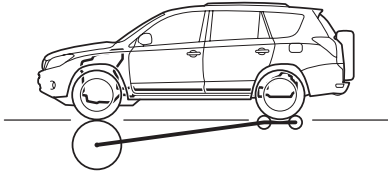
- (3) Position the front wheels on the tester roller.
- (4) Position the rear wheels on the free roller.
- (5) Ensure that the vehicle does not move using wires.
- (6) Shift the transmission shift lever to the "D" position.

CAUTION:

- The maximum speed should be less than 50 km/h (31 mph).
- If the measurement is required with over 50 km/h (31 mph), remove the propeller shaft.

- (f) Using chassis dynamometer

Vehicle Condition	Chassis dynamometer Type	Note
<p>T</p>	2-Wheel Chassis Dynamometer	<ul style="list-style-type: none"> • Remove the propeller shaft. • Remove the 4WD fuse from fuse box during the test. <p>NOTICE: After the test, reinstall the fuse, and then delete DTC C1298.</p>
<p>T</p>	4 -Wheel Free Chassis Dynamometer	<p>CAUTION: Do not use a 4 wheel chassis dynamometer.</p>

Vehicle Condition	Chassis dynamometer Type	Note
 T	4-Wheel Driven Chassis Dynamometer	-

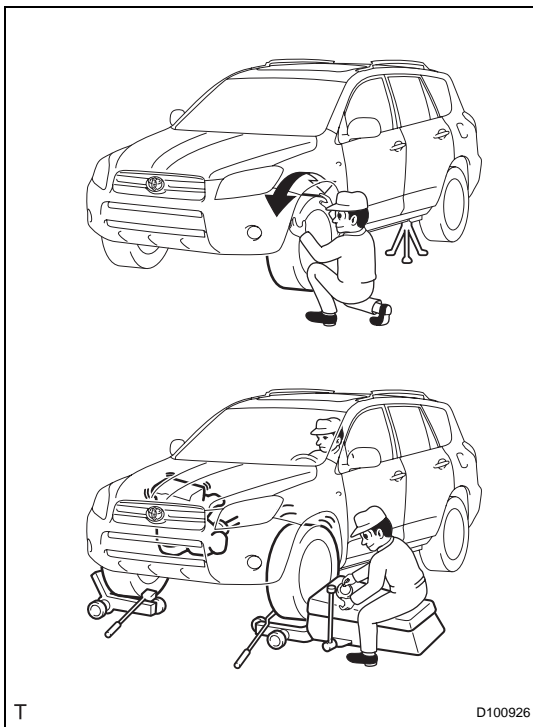
IN

When performing high speed, high load measurements on a chassis dynamometer, observe the following instructions and then measure with the front wheels.

- (1) If the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, prohibit the system from activating.
- (2) Ensure that the vehicle is securely fixed in place.

HINT:

- Sudden shifting, braking, acceleration or deceleration is not allowed.
- Make sure to activate the Vehicle Stability Control (VSC) & Traction Control (TRAC) system after the test. Check that the VSC warning indicator light goes off when restarting the engine.



D100926

- (g) On-Vehicle Wheel Balancing:

When performing on-vehicle wheel balancing on an active torque control 4WD vehicle, to prevent each wheel from being rotated at a different speed and in different directions, always be sure to observe the following precautions.

- (1) All 4 wheels should be jacked up and lifted off of the ground completely.
- (2) Press the 4WD LOCK-MODE SWITCH to turn it OFF and disable the 4WD system.

CAUTION:

Propeller shaft should be removed.

- (3) If the vehicle is equipped with a Vehicle Stability Control (VSC) system, prohibit the system from activating (see previous step).
- (4) The parking brake lever should be fully released.
- (5) None of the brakes should be applied.
- (6) The wheels should be driven on the wheel balancer with the engine running.
- (7) Carry out the wheel balancing with the transmission in the D position.

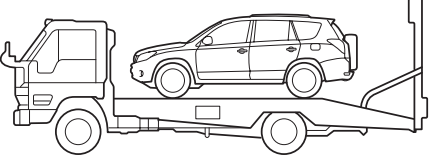
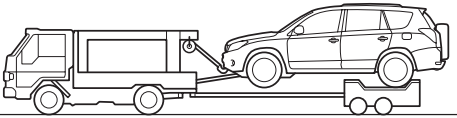
HINT:

- When performing the wheel balancing, pay attention to the other wheels rotating at the same time.
- Sudden acceleration, deceleration or braking is not allowed.

- Do not forget to change the Vehicle Stability Control (VSC) system to an operational condition after the test. Check that the VSC warning indicator light goes off when restarting the engine.

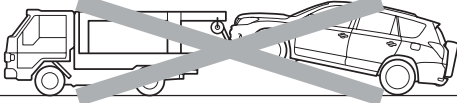
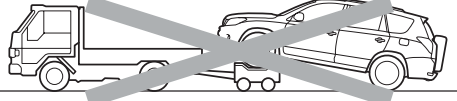
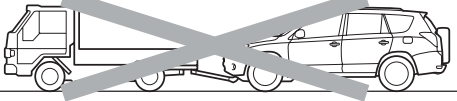
10. WHEN TOWING ACTIVE TORQUE CONTROL 4WD VEHICLES

- Use one of the methods shown below to tow the vehicle.
- If the vehicle has trouble in the chassis and drivetrain, use method 1 (flat bed truck).

Towing Method	Parking Brake Condition
1. Flat Type Truck 	Applied
2. Wheel Lift Type Truck From Front  T	Applied

NOTICE:
Do not use any towing method other than those shown above.

- For example, the towing methods shown below are dangerous or damage the vehicle, so do not use them.

 T	<ul style="list-style-type: none">• Never tow the vehicle using a method where the lifted-up wheel cannot rotate.• If this towing method is used, either from the front or rear:<ul style="list-style-type: none">(a) There is a danger of the drivetrain heating up and causing a breakdown, or of the wheels flying off the dolly.(b) In addition, if the vehicle is equipped with the Vehicle Stability Control (VSC) & Traction Control (TRAC) system, the system will apply the rotating wheel brake only when the engine is running.
 T	<p>CAUTION: Do not use the sling type method, either from the front or rear, as this method causes damage to the body.</p>
 T	<p>CAUTION: Do not tow the vehicle with all of its wheels contacting the ground, as this causes damage to the transaxle.</p>

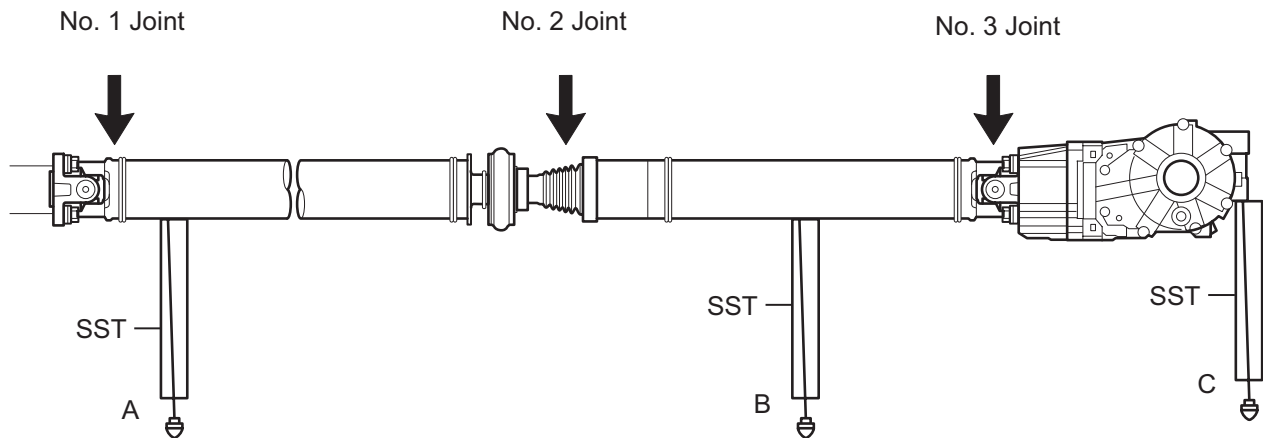
11. FOR VEHICLES EQUIPPED WITH CATALYTIC CONVERTER**CAUTION:**

If a large amount of unburned gasoline or gasoline vapors flow into the converter, it may cause overheating and create a fire hazard. To prevent this, observe the following precautions.

- (a) Use only unleaded gasoline.
- (b) Avoid idling the engine for more than 20 minutes.
- (c) Avoid performing unnecessary spark jump tests.
 - (1) Perform a spark jump test only when absolutely necessary. Perform this test as rapidly as possible.
 - (2) While testing, never race the engine.
- (d) Avoid a prolonged engine compression measurement. Engine compression measurements must be performed as rapidly as possible.
- (e) Do not run the engine when the fuel tank is nearly empty. This may cause the engine to misfire and create an extra load on the converter.

12. INSPECTION AND ADJUSTMENT OF JOINT ANGLE DURING REMOVAL AND INSTALLATION OF PROPELLER SHAFT (4WD)

- (a) When performing operations which involve the removal and installation of the propeller shaft, always check the joint angle. Make adjustments if necessary (see page [PR-4](#)).



VEHICLE LIFT AND SUPPORT LOCATIONS

1. NOTICE ABOUT VEHICLE CONDITION WHEN JACKING UP VEHICLE

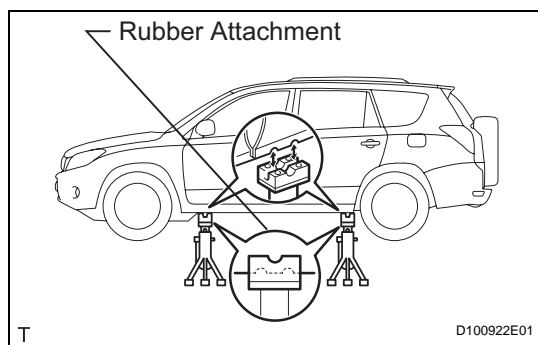
- (a) The vehicle must be unloaded before jacking up / lifting up the vehicle. Never jack up / lift up a heavily loaded vehicle.
- (b) When removing heavy parts such as the engine and transmission, the center of gravity of the vehicle may shift. To stabilize the vehicle, place a balance weight in a location where it will not roll or shift, or use a mission jack to hold the jacking support.

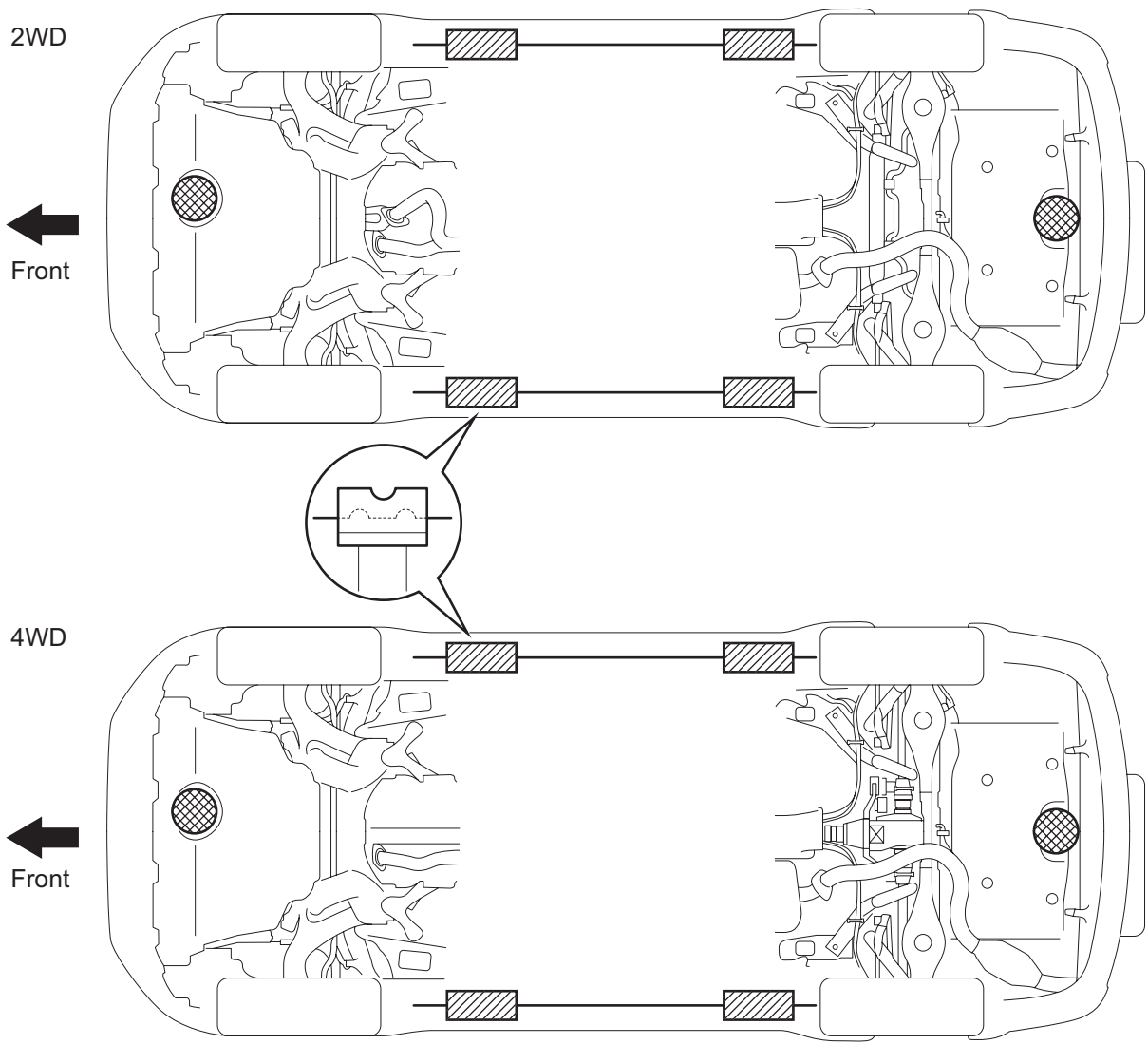
2. NOTICE FOR USING 4 POST LIFT

- (a) Follow the safety procedures outlined in the lift instruction manual.
- (b) Use precautionary measures to prevent the free wheel beam from damaging tires or wheels.
- (c) Use wheel chocks to secure the vehicle.

3. NOTICE FOR USING JACK AND SAFETY STAND

- (a) Work on a level surface. Use wheel chocks at all times.
- (b) Use safety stands with rubber attachments as shown in the illustration.
- (c) Set the jack and safety stands to the specified locations of the vehicle accurately.
- (d) When jacking up the vehicle, first release the parking brake and move the shift lever to N.
- (e) When jacking up the entire vehicle:
 - When jacking up the front wheels first, make sure wheel chocks are behind the rear wheels.
 - When jacking up the rear wheels first, make sure wheel chocks are in front of the front wheels.
- (f) When jacking up only the front or rear wheels of the vehicle:
 - Before jacking up the front wheels, place wheel chocks on both sides of the rear wheels.
 - Before jacking up the rear wheels, place wheel chocks on both sides of the front wheels.
- (g) When lowering a vehicle that only has its front or rear wheels jacked up:
 - Before lowering the front wheels, make sure wheel chocks are in front of the rear wheels.
 - Before lowering the rear wheels, make sure wheel chocks are behind the front wheels.





T

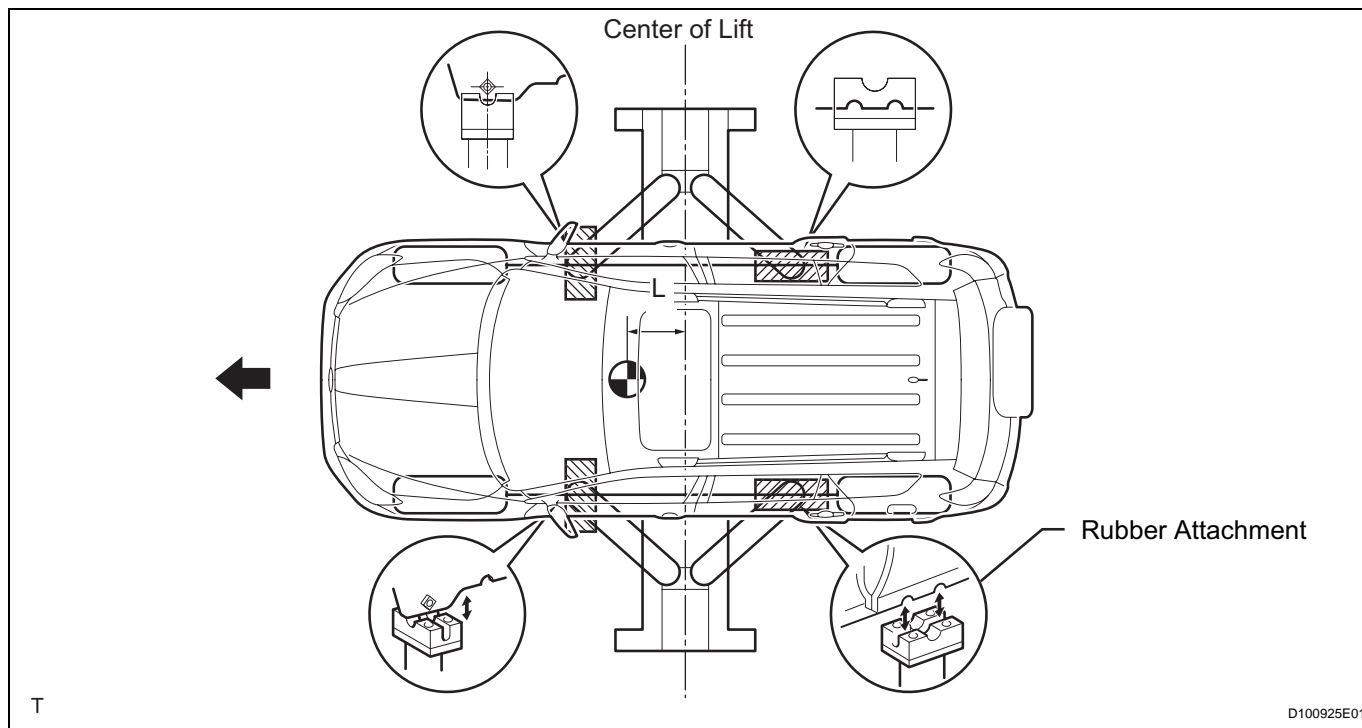
D100923E01

	JACK POSITION Front: Engine under cover Rear: Body lower back panel	CAUTION: When jacking-up the vehicle, make sure the vehicle is not carrying any extra weight.
	SUPPORT POSITION Safety stand and swing arm type lift	-

(h) It is extremely dangerous to perform any work on a vehicle raised on a jack alone, even for work that can be finished quickly. Safety stands must be used to support it.

4. NOTICE FOR USING SWING ARM TYPE LIFT

- (a) Follow safety procedures outlined in its instruction manual.
- (b) Use a swing arm equipped with a rubber attachment, as shown in the illustration.
- (c) When using the lift, make sure that the vehicle is stabilized so that it will not tilt while work is being performed. Stabilize the vehicle by adjusting the lift arm's length and vehicle's position.
- (d) When using the lift, its center should be as close to the vehicle's center of gravity as possible (length of "L" in the illustration should be as short as possible).

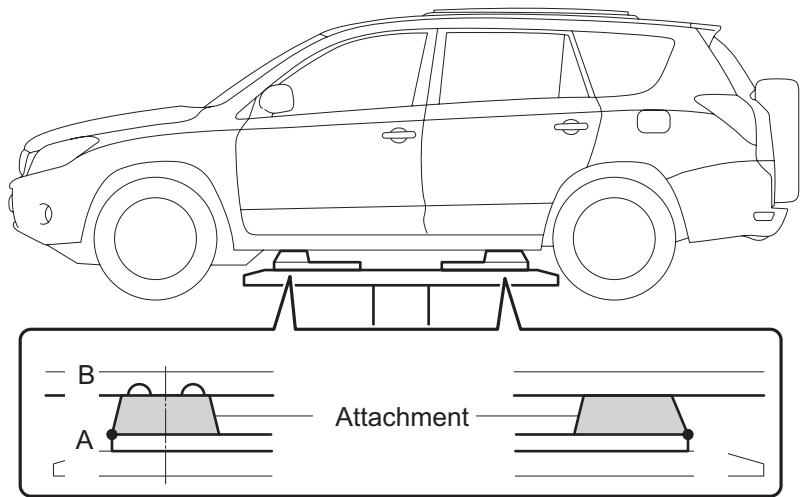


- (e) Set the vehicle on the lift as level as possible. Then match the groove of the cradle to the rigid rack support location.
- (f) Be sure to lock the swing arms before lifting and during work (if equipped with arm locks).
- (g) Lift the vehicle up off the ground. Stand at a safe distance and shake the vehicle to check its stability.

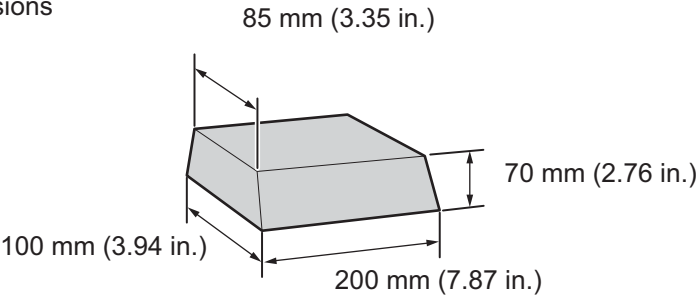
5. NOTICE FOR USING PLATE TYPE LIFT

- (a) Follow safety procedures outlined in its instruction manual.
- (b) Use plate lift attachments (rubber lifting blocks) on top of the plate surface.

(c) Refer to the illustration below to determine how to properly set the vehicle.



Attachment Dimensions



IN

T

D100924E01

HINT:

Right and left set position	Place the vehicle over the center of the lift.
Front and rear set position	Place the attachments at the ends of the rubber plate surface, under the vehicle lift pad (A and C in the illustration). Raise the plate slightly and reposition the vehicle so the top of the attachment (B in the illustration) is aligned with the front side notch in the vehicle rocker flange.

(d) Use the lift to raise the vehicle up off the ground, and shake it to make sure that it is stable.

CUSTOMIZE PARAMETERS

NOTICE:

- When the customer requests a change in a function, first make sure that the function can be customized.
- Make a note of the current settings before customizing.
- When troubleshooting a function, first make sure that the function is set to the default setting.

1. Combination meter

Display (Item)	Default	Function	Setting
SEAT BELT WARN	D/P ON	Seat belt warning buzzer ON / OFF setting	D/P ON: Driver and passenger buzzer ON D ON: Driver buzzer ON P ON: Passenger buzzer ON D/P OFF: Driver and passenger buzzer OFF

2. Air conditioning system

Display (Item)	Default	Contents	Setting
SET TEMP SHIFT (Set Temperature Shift)	NORMAL	To control with shifted temperature against display temperature	+2 C / +1 C / NORMAL / -1 C / -2 C
AIR INLET MODE (Air Inlet Mode)	AUTO	In case of turning A/C ON when you desire to make compartment cool down quickly, this is function to change mode automatically to RECIRCULATION mode	MANUAL / AUTO
COMPRESSOR MODE (Compressor Mode)	AUTO	Function to turn A/C ON automatically by pressing AUTO button when blower is ON and A/C is OFF	MANUAL / AUTO
COMPRS / DEF OPER (Compressor / Air Inlet DEF Operation)	LINK	Function to turn A/C ON automatically linked with FRONT DEF button when A/C is OFF	NORMAL / LINK
EVAP CTRL (Evaporator Control)	AUTO	Function to set evaporator control to AUTOMATIC position (AUTO) to save power, or to coldest position (MANUAL) to dehumidify air and to prevent windows from fogging up	MANUAL / AUTO
FOOT / DEF MODE (Foot / DEF auto mode)	ON	Function to turn airflow from FOOT / DEF ON automatically when AUTO MODE is ON	OFF / ON
AUTO BLOW UP (Foot / DEF automatic blower up function)	ON	Function to change blower level automatically when defroster is ON	OFF / ON

3. Power Door Lock Control System

Display (Item)	Default	Function	Setting
UNLK/KEY TWICE	ON	Unlocks only driver side door when driver side door key cylinder turned to unlock once, and unlocks all doors when turned to unlock twice. For OFF setting, turning it once unlocks all doors.	ON / OFF

4. Wireless Door Lock Control System

Display (Item)	Default	Contents	Setting
HAZARD ANS BACK	ON	When LOCK switch on transmitter pressed, all hazard warning lights illuminate once. When UNLOCK switch pressed, all hazard warning lights illuminate twice	ON / OFF

Display (Item)	Default	Contents	Setting
WIRLS BUZZ OPER	ON	Function that makes wireless buzzer sound for answer-back when transmitter LOCK / UNLOCK switch pressed	ON / OFF
OPEN DOOR WARN	ON	If door is not completely closed and transmitter LOCK switch is pressed, this function sounds a buzzer for 10 seconds	ON / OFF
WIRELESS OPER	ON	ON / OFF of wireless door lock function	ON / OFF
ALARM FUNCTION	ON	Operates security alarm when PANIC switch on transmitter continuously pressed for 1 second	ON / OFF
UNLOCK / 2 OPER	ON	Function that unlocks driver side door when unlock switch on transmitter is pressed once, and unlocks all doors when pressed twice. If setting is OFF, pressing unlock switch once makes all doors unlock.	ON / OFF
AUTO LOCK DELAY	30s	This function controls amount of time from unlocking doors to automatic re-locking function	30s / 60s

5. Lighting System

Display (Item)	Default	Contents	Setting
LIGHTING TIME (Lighting Time)	15 seconds	Changes illumination duration after door closure. (It will quickly fade out in case of turning ignition switch ON.)	7.5/15/30 (seconds)
I/L ON /ACC OFF (Room light illuminates when ignition switch turned OFF)	ON	Illuminates light when ignition switch turned to ACC. (Room light illuminated when interior light switch in DOOR position)	ON / OFF
I/L ON / UNLOCK (Room light illuminates when door key unlocked.)	ON	Function to light up room light when unlocking with door key cylinder. (Room light illuminated when interior light switch in DOOR position)	ON / OFF
LIGHT CONTROL	ON	Function to light up foot light when ignition switch is ON and shift position is not P.	ON / OFF